

Claims:

1 1. For use in a communication interface for communication between a
2 personal data assistant (PDA) and the communication interface, the communication
3 interface being configured to communicate with other devices via the internet and being
4 further configured to facilitate data communication between the PDA and other devices, a
5 computer readable medium having stored thereon a plurality of sequences of instructions,
6 said sequences of instructions including instructions that, when executed by a processor,
7 cause said processor to perform the steps of :

8 receiving from a PDA a data packet having a header configured under a first
9 format with the communication interface;

10 re-configuring the received data packet under a second format with the
11 communication interface; and

12 transmitting the re-configured data packet to a destination device.

1 2. A computer readable medium according to claim 1, wherein the step of
2 receiving the data packet further includes receiving a data packet having a header
3 containing data information including the intended destination of the data packet and the
4 size of the data packet.

1 3. A computer readable medium according to claim 1, wherein the step of re-
2 configuring the data packet further includes the steps of:

3 separating the header information from the data sent together in the data packet;
4 generating a new header under a second format; and
5 generating a new data packet having a newly configured header and the data
6 received in the original data packet.

1 4. A computer readable medium according to claim 3, wherein the step of
2 generating a new header under the second format further includes the steps of:
3 generating at least one header from the group including a TCP header and an IP header.

1 5. A computer readable medium according to Claim 3, wherein the step of
2 generating a new header under the second format further includes the steps of generating
3 a new packet under a TCP/IP protocol.

1 6. A computer readable medium according to Claim 1, wherein the step of
2 configuring the header further includes the steps of:

3 separating the header information from the data sent in the data packet; and
4 generating a newly configured data packet from the header information and the
5 data received in the original data packet.

1 7. A computer readable medium according to Claim 6, wherein the step of
2 generating a newly configured data packet includes generating a new data packet with a
3 new header configured under the second format.

1 8. A computer readable medium according to Claim 1, further comprising:
2 receiving another data packet configured under the second format at the
3 communications interface;
4 configuring a header for a new packet according to the first format from the
5 second format; and
6 transmitting the second reconfigured packet from the communications interface to
7 the PDA.

1 9. A computer readable medium according to Claim 8, wherein configuring
2 the header of the data packet from the second format to the first format includes
3 reconfiguring the first data packet from a data packet having a header configured under
4 the TCP/IP protocol to a data packet having a header configured under the OBEX
5 protocol.

1 10. A computer readable medium according to Claim 8, wherein the step of
2 configuring a header for a new data packet according to the first format includes
3 reconfiguring payload data sent with the second reconfigured packet.

4
5 11. A communication interface configured to exchange digital data packets
6 having communication headers with a computer server, wherein the data packets are
7 configured under a first format with a PDA and to exchange digital data packets
8 configured under a second format, comprising:

9 a parser configured to separate the header information from other information
10 included within the data packet;

11 a packet converter configured to convert the data packet transmitted from the
12 PDA under the first format to the second format, the packet converter including a data
13 converter configured to configure data from one format to another format and a header
14 generator configured to generate a header configured under the first header format;

15 a data packet generator configured to generate a second data packet using the
16 header information and other information included in the original data packet sent by the
17 PDA; and

18 a data transmitter configured to transmit data to a destination device.

1 12. A communication interface according to Claim 11, wherein the packet
2 converter is configured convert a data packet sent by a PDA, wherein the data packet
3 includes a header and data payload, to a second data packet configured under the second
4 format.

1 13. A communication interface according to Claim 12, wherein the packet
2 converter is configured to reformat the first data packet according to the second format
3 and wherein the second format includes a header that is configured under the second
4 format.

1 14. A communication interface according to Claim 12, wherein the packet
2 converter is configured to reformat the first data packet according to the second format,
3 wherein the second format includes a header that is configured under the second format
4 and wherein the second format further includes a data payload that is also reformatted
5 under the second format.

1 15. A communication interface according to Claim 11, wherein the packet
2 converter is configured convert a data packet sent by a second device communicating
3 with the communication interface, wherein the data packet includes a header and data
4 payload, to a third data packet configured under the first format.

1 16. A communication interface according to Claim 15, wherein the packet
2 converter is configured to reformat the second data packet according to the first format
3 and wherein the first format includes a header that is configured under the first format.

1 17. A communication interface according to Claim 15, wherein the packet
2 converter is configured to reformat the second data packet according to the first format,
3 wherein the first format includes a header that is configured under the first format and
4 wherein the first format further includes a data payload that is also reformatted under the
5 first format.

1 18. A system for communicating between a personal data assistant (PDA) and
2 a computer comprising:

3 a PDA having a processor configured to process digital data configured
4 under a first header format, a memory for storing data, a wireless data transmitter for
5 transmitting data configured under the first header format to a remote location, and a
6 receiver configured to receive data configured under the first header format from a source
7 location;

8 a computer server configured to send, receive and process data formatted
9 under a second header format; and

10 a communication interface having a data processor that is configured to
11 send and receive digital data configured under the first header format to and from the
12 PDA respectively, to send and receive digital data configured under the second header
13 format to and from the computer server respectively, to receive and convert data
14 transmitted under the first header format to the second header format and transmit the
15 reformatted data to the computer server and to receive and convert data transmitted under

16 the second header format to the first header format and transmit the reformatted data to
17 the PDA.

1 19. A system according to Claim 18 wherein the first header format is configured under an
2 object exchange (OBEX) protocol, and wherein the second format is configured under a TCP/IP protocol.

1 20. A system according to Claim 18, wherein the PDA is configured to
2 transmit data configured under the first header format from the PDA to the
3 communication interface, wherein the communication interface is configured to reformat
4 the received header with the second header format and to transmit the data packet with
5 the new header to the computer server, wherein the communication interface is further
6 configured to receive a second data packet sent by the computer server and reformat the
7 header associated with the second data packet under the first protocol and to transmit the
8 configured processed data to the PDA, and wherein the PDA is configured to receive and
9 to process the configured processed data.

1 21. A system according to Claim 18, wherein the PDA is configured to transmit data
2 configured under the first header format from the PDA to the communication interface, wherein the
3 communication interface is configured to configure the received header with the second header format and
4 to transmit the data packet with the new header to the computer server, wherein the computer server is
5 configured to process the received data and to transmit the processed data, which is configured under the
6 second header format, to the communication interface, wherein the communication interface is configured
7 to configure the header of the processed data under the first protocol and to transmit the configured
8 processed data to the PDA, and wherein the PDA is configured to receive and to process the configured
9 processed data.

1 22. A method of communicating between a personal data assistant (PDA) and
2 a computer server via a communication interface, comprising:
3 transmitting data having a header configured under a first format from the PDA to
4 the communication interface;
5 configuring the header associated with the received data with the second format
6 with the communication interface and transmitting the translated data to the computer
7 server;

8 processing the received data with the computer server;
9 transmitting the processed data to the communication interface;
10 configuring the header of the processed data having the header configured under
11 the first format with the communication interface;
12 transmitting the processed data having the reconfigured header to the PDA; and
13 receiving and processing processed data having the reconfigured header with the
14 PDA.

1 23. A method of facilitating communication between a personal data assistant
2 (PDA) and a computer server via a communication interface, comprising:
3 receiving a data packet having a header configured under a first protocol from a
4 PDA to the communication interface;
5 configuring the header of the received data packet to a second protocol with the
6 communication interface and transmitting the translated data to the computer server;
7 receiving processed data from the computer server;
8 configuring the processed data under the first protocol with the communication
9 interface; and
10 transmitting the configured processed data to the PDA.

1 24. A method of facilitating communication between a personal data assistant
2 (PDA) and a computer server via a communication interface, comprising:
3 receiving a data packet having a header configured under the OBEX protocol
4 from a PDA to the communication interface;
5 configuring the header of the received data packet to a header configured under
6 the TCP/IP protocol with the communication interface and transmitting the reconfigured
7 data packet to the computer server;

8 receiving a second data packet from the computer server, wherein the second data
9 packet includes a header configured under the TCP/IP protocol;
10 creating a third data packet by reconfiguring the header of the received packet
11 under the OBEX protocol with the communication interface; and
12 transmitting the third data packet to the PDA.

1 25. A method of facilitating communication between a personal data assistant
2 (PDA) and a computer server via a communication interface, comprising:
3 receiving a data packet by a communication interface from a PDA, wherein the
4 data packet is configured under a first format and includes a request to perform a process
5 on the data packet;
6 reformatting the data packet with the communication interface to a universal
7 format for transmission to other devices; and
8 transmitting the reformatted data packet to a device.

1 26. A method according to Claim 25 further comprising:
2 receiving a data packet from the device;
3 reformatting the data packet to a second data packet according to the first format;
4 and
5 transmitting the second data packet to the PDA.

1 27. A method according to Claim 25 further comprising:
2 performing a processing operation on the data packet with the device;
3 receiving a data packet from the device;
4 reformatting the data packet to a second data packet according to the first format;
5 and
6 transmitting the second data packet to the PDA.